We claim:

1. A light source comprising:
a waveguide with a phosphor region; and
an excitation source that directs excitation energy at the light waveguide other than in a waveguide direction such that light is generated in a waveguide direction and/or parallel to a waveguide direction.

2. The light source of claim 1 wherein said waveguide is comprised of a spiral.

3. The light source of claim 1 wherein the waveguide is comprised of multiple spirals configured about the same center.

4. The light source of claim 1 wherein said waveguide has a small cross-section in relationship to compared a large longitudinal dimension.

5. The light source of claim 1 wherein said excitation source is an electron beam.

6. The light source of claim 1 wherein said excitation source is light.

7. The light source of claim 1 wherein said excitation source is an alternating electric field.

8. The light source of claim 1 wherein said waveguide is constructed to control the spontaneous emission rate of the phosphor in the phosphor region.

9. The light source of claim 1 wherein the one of the dimensions of the waveguide is on the order of a wave length of light.

10. The light source of claim 1 wherein mirrors are placed on one or more sides of the waveguide.

11. The light source of claim 10 wherein said mirrors are comprised of aluminum.

12. The light source of claim 10 wherein said mirrors are comprised of alternating layers of materials with different indicies of refraction.

13. The light source of claim 1 including another waveguide associated with the waveguide with the phosphor layer.

14. The light source of claim 1 including a multiplicity of waveguides, each forming a pixel.

15. A light source comprising:

a waveguide;

a phosphor region associated with the waveguide; and

an excitation source that directs excitation energy at the waveguide other than in a waveguide direction such that light is generated in a waveguide direction and/or parallel to a waveguide direction.

16. A light source comprising:

a phosphor film which has a long dimension and a small cross-section, the phosphor film having at least one waveguide mode in the long dimension; and

an excitation source that directs excitation energy at the phosphor film other than in a waveguide direction such that light is generated in a waveguide direction and/or parallel to a waveguide direction.

17. The light source of claim 1 including at least one of a light on ramp and a light off ramp associated with the waveguide.

18. The light source of claim 15 including at least one of a light on ramp and a light off ramp associated with the waveguide.

19. The light source of claim 16 including at least one of a light on ramp and a light off ramp associated with the phosphor film

20. The light source of claim 15 wherein the waveguide is comprised of a spiral.